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Résumé de l'article

La géographie scolaire aux États-Unis a connu une résurgence sans précédent au cours des deux dernières décennies. Il y a plusieurs raisons à ce renouveau de la discipline, parmi lesquelles un fort taux d'« analphabétisme géographique » chez les élèves, solidement documenté, qui a soulevé le courroux des politiciens, des parents et des géographes *(The Gallop Organization*, 1988). Cet article examine la façon dont la réforme éducative a fait face aux difficultés auxquelles est confrontée la discipline à l'aube du nouveau millénaire. Pour parvenir à régler ces difficultés, il fallait imprimer à la géographie scolaire des modifications qui se sont déroulées en trois phases : 1) la prise de conscience des problèmes auxquels fait face la discipline; 2) l'élaboration de normes nationales en matière de contenu, afin de guider l'enseignement de la discipline; et 3) l'évaluation par État et à l'échelle nationale des résultats obtenus par les élèves et des initiatives enseignantes en géographie. Les auteurs discutent de l'importance de chacune de ces trois phases dans le contexte de la géographie scolaire aux États-Unis.

Launching Geographic Education into the 21st Century: The View from the United States

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Abstract

Geographic education in the United States has experienced an unprecedented resurgence in the schools during the past two decades. There are several compelling reasons for a revival of the discipline, among them a thoroughly documented level of geographic illiteracy in the school age population that raised the ire of politicians, parents, and geographers alike (The Gallop Organization, 1988). This paper discusses the way that educational reform has addressed the problems facing geographic education on the eve of the new millennium. A successful approach to the issues necessitated being able to move geography education forward in three phases. They were: 1) awareness of the problems facing the discipline; 2) the development of rigorous content standards to guide geography education nationally, and 3) national and state assessments of student performance in geography and teacher preparation initiatives. The significance of each of the three phases is discussed within the context of geographic education within the United States.

Key Words : geography education, geography assessment, geography content standards.

Résumé

La géographie scolaire aux États-Unis à l'aube du XXIe siècle

La géographie scolaire aux États-Unis a connu une résurgence sans précédent au cours des deux dernières décennies. Il y a plusieurs raisons à ce renouveau de la discipline, parmi lesquelles un fort taux d'« analphabétisme géographique » chez les élèves, solidement documenté, qui a soulevé le courroux des politiciens, des parents et des géographes (*The Gallop Organization*, 1988). Cet article examine la façon dont la réforme éducative a fait face aux difficultés auxquelles est confrontée la discipline à l'aube du nouveau millénaire. Pour parvenir à régler ces difficultés, il fallait imprimer à la géographie scolaire des modifications qui se sont déroulées en trois phases : 1) la prise de conscience des problèmes auxquels fait face la discipline; 2) l'élaboration de normes nationales en matière de contenu, afin de guider l'enseignement de la discipline; et 3) l'évaluation par État et à l'échelle nationale des résultats obtenus par les élèves et des initiatives enseignantes en géographie. Les auteurs discutent de l'importance de chacune de ces trois phases dans le contexte de la géographie scolaire aux États-Unis.

Mots-clés : géographie scolaire, évaluation en géographie, normes de contenu géographique.

INTRODUCTION

The 20th century has seen numerous changes in the status of the teaching of geography (Gardner, 1986). Several of the significant changes occurred at the beginning of the century when physical geography emerged as a prominent focus of the discipline. The merging of geography with the broader social studies curriculum occurred mid-century (Rugg, 1927), while the High School Geography Project (Pratt, 1970) introduced systematic geographic studies to the social studies curriculum during the 1960s. The final quarter of the century may, however, be viewed as one of momentous change for geography education in the United States. It is the focus of this paper. This latter period of change in geography education in American schools began in 1984 (Joint Committee on Geographic Education, 1984) and, in the authors' judgements, the overall growth of the discipline since 1984 in elementary through high school education in the United States is unmatched by any other period within the century. What typifies this resurgence and how has it come about? There are three stages in the resurgence that the author will use to anchor and discuss this period relative to their characteristics and the activities they promoted.

THE THREE PHASES OF CHANGE IN GEOGRAPHIC EDUCATION SINCE 1984

During the past fifteen years American education has undergone a critical inspection of its mission in society. The period from 1984 to 1999 is viewed by the author in three phases: early, middle and mature phases (Table 1). The first phase was the identification that a problem existed with the teaching of geography and created a national awareness of the problem. The second phase entailed the development of a plan to address the problem. This materialized as a common set of goals entitled the national content standards which clearly defined what geography in school was supposed to accomplish and how progress could be monitored. Third, the enhancement of geography curriculum, from materials to assessment, became the major focus. It is this third phase that is currently in progress and which will continue into the new century. Work in this final stage is predicated on the work completed during the prior two phases.

Table 1 Phases of Geography Education Reform in the USA (1984-1999)

Phase I (to 1990)	Phase II (1991-96)	Phase III (1997-Present)
Awareness that geography is important for citizens of the United States	Determining what students should know and be able to do in geography; national content standards; national assessment; state assessment	Using standards based instructional materials along with content based teacher preparation models; using large scale assessment in geography; national assessment; state assessment

PHASE I: AWARENESS OF THE PROBLEM

Geographic education prior to 1984 was typified by low student enrollment and teacher education programs that were not connected with the new conceptual structures of the discipline. The publication by the National Commission on Excellence in Education, entitled *A Nation At Risk: The Imperative for Educational Reform* (National Commission on Excellence in Education, 1983) reported that, during the period 1960-61, 14 percent of the students in grades 7 - 12 had been enrolled in geography courses, and by the mid-1970s that percentage had dropped to nine (Gardner, 1986). In contrast, the sampling of approximately 2500 students from each of the 50 states for the 1994 National Assessment of Geography indicated that 69 percent of 8th grade students in the sample reported taking at least one geography course since sixth grade and 66 percent of 12th grade students in the sample reported having taken at least one geography course since ninth grade (Persky, Reese *et al.*, 1996). The positive changes in the data suggest that the amount of geography instruction and the percentage of students studying geography was increasing significantly by the mid-1990s.

During the earlier period, however, the small percentage of students that had studied geography combined with the lack of geographic knowledge among students in the United States was coined "geographic illiteracy". The low level of geographic knowledge among the nation's school aged population had been frequently documented by geographical educators in the mid-1980s and this led to wide spread public awareness of the problem (The Gallop Organization, 1988; Stoltman and Wardley, 1997).

Awareness of the problems associated with geographic literacy was clearly linked to the larger problems faced by American education in general. In order to document the negative effects resulting from the absence of geography education in the schools, tests and surveys were administered to students of all ages. Regardless of the age levels of the students being tested, the results obtained time and time again were strikingly similar. Students in the United States had little comprehension of the world and their place and role in the world of international connections and events (Pike and Barrows, 1979). The test results caught the interest of the media. Newspapers, television, radio, and numerous magazines publicized the minimal knowledge Americans had about the geography of their country and the rest of the world (The Gallop Organization, 1988; Stoltman and Wardley, 1997). The public awareness that resulted brought both criticism and support for geography education.

The first response by the educational communities among the various states was to provide some evidence that there was a way out of the curricular morass into which geography had fallen. Geographic educators responded with the *Guidelines for Geographic Education: Elementary and Secondary Schools* (Joint Committee on Geographic Education, 1984) which became the major resource for teachers and curriculum designers trying to decide how geography should be presented in the curriculum. The *Guidelines* clearly articulated themes and concepts to teachers and to writers of instructional materials in geography and social studies. The

Guidelines was the most far reaching and powerful awareness building document in the 1980s. It presented mainstream themes which the discipline could support with confidence, and which geographic educators in the schools and universities could pursue with imagination and vigor (Olmstead, 1987). The *Guidelines* communicated clearly to teachers the five fundamental themes from geography put forward by the Joint Committee. It provided a disciplinary structure for teaching which was endorsed by both professional societies of geographers as well as by numerous individuals within the discipline (Joint Committee on Geographic Education, 1984). The *Guidelines* offered a way to organize a geography course to a large number of teachers who had little or no academic experience with the discipline. While the five fundamental themes proposed in the *Guidelines* did not meet the disciplinary expectations of many, they were a start amidst the "geographic illiteracy" that prevailed.

The need to reach teachers directly to both build awareness and present plausible solutions as to what ailed geography in the schools emerged as a national priority. Without any practical models to use to embark on an educational salvage mission, the National Geographic Society launched a major experiment that developed into the Geographic Alliance Movement. Geographic Alliances were started as organizations of teachers committed to the improvement of geography teaching. The National Geographic Society provided base-level matching funding of 50 000 $ per year to be matched by funds from withing each state for the establishment of an alliance. In addition, they donated huge amounts of high quality classroom and teacher in-service materials. Seven state geographic alliances were funded in 1986 and by 1993 the alliance network has spread to all 50 states, Washington, DC, and Puerto Rico (Grosvenor, 1995). The alliances have focused the attention of local communities and educational authorities at all levels of government on the importance of geography. The dedicated work by many hundreds of teachers and geography professionals who volunteer time and expertise to the alliances resulted in good public relations and awareness building. The major goal of the alliances has been to improve the teaching of geography in the schools of the United States. Concurrently, the National Geographic Society has initiated other activities that also promote geography. By the early 1990s the NGS was sponsoring an annual Geography Awareness Week and a National Geography Bee, with a secondary school Geography Challenge scheduled to begin in 1999. The outreach activities began to take advantage of newly developing electronic media, and in 1998 Geography Awareness Week made the transition from print to print and electronic format for dissemination. Other Society programs that reach many thousands of parents such as Family Geography Challenge, engage students in completing home-based geography projects and media-based excursions and discoveries.

PHASE II: NATIONAL GEOGRAPHY CONTENT STANDARDS

Geographic educators realized by 1990 that the doom-and-gloom of geographic illiteracy that had been powerful at capturing attention needed to be refocused on examples of success in geographic education. The general population had learned much about what was wrong with geography in the school, but little had been proposed about what should be done to make an adjustment and improve the teaching and learning of the subject. Fortunately, the call to action came at the

national level when the question "What should students know and be able to do in geography?" was asked of professional geography educators. That same question was being asked of educators in mathematics, science, history and civics. Asking this question of the geography education and the broader geography profession was important for two reasons. First, geography found itself on an equal playing field with regard to history, civics, science, and mathematics regarding the public expectation that "students should know and be able to do" geography. Second, the issues surrounding content standards were being asked relative to the establishment of a national framework for geography that would guide the assessment of student performance in the discipline. Geography education was given the opportunity by the U.S. Department of Education to develop a National Geography Standards Project.

Geography for Life: National Geographic Standards 1994 (Geography Education Standards Project, 1994) represented a total rethinking of geographic education in the national context. The development of the content standards necessitated revisiting the philosophical and research basis for the discipline in the school curriculum. The overarching goal of the standards in geography was to identify content important to the development of a high level, geographic perspective among students. The development of significant geographic content was consistent with the objectives of national standards projects in other subjects, including mathematics, science, history and civics (Lewis, 1995).

The national content standards defined geographically informed students as those who could (a) see meaning in the arrangement of things in space; (b) see relations between people, places, and environments; (c) use geographic skills; and (d) apply spatial and ecological perspectives to life situations. The standards defined the geographically informed person as one who knows and understands the geographic content that underpins the six elements of geography (I-VI) and the eighteen content standards (1-18). It is the content of the discipline that enables students to formulate the geographic perspective reflected by the six elements and eighteen standards (Table 2).

The national standards were set by a consensus process that involved parents, academic geographers, business leaders, governmental officials, teachers and administrators. The process took nearly three years to deliberate, draft, review, hold public hearings on draft standards, and finally arrive at consensus. At the conclusion of the process and for the first time since the early 20th century, American geography education had a clearly identified set of content specifications that could be incorporated in the curricula of the states.

The national content standards represent the thinking of geographers and geographic educators. They clearly identify the big ideas from geography that are important in elementary and secondary education. On the other hand, there was no specific attempt to determine how the standards connected to the curriculum or to the broader group of teachers in the United States who had little or no formal geography in their teacher preparation. It was that group of teachers upon whom the immediate task of teaching the subject specifically or integrating geography into the social studies curriculum (Stoltman and Wardley, 1996). There was no well researched coordination to link standards development and intended users

(curriculum coordinators and classroom teachers) that would expedite the adoption of the standards by teachers, school districts and states. On the other hand, the national content standards in geography were intended to be world-class, and they were designed to be rigorous and conducive to producing change both in the content of geography and the way it was being taught. It was anticipated that teachers without prior geographic academic work would find the content standards challenging.

Table 2 The National Geography Content Standards

I. The World in Spatial Terms

1. How to use maps and other geographic representations, tools and technologies to acquire, process, and report information from a spatial perspective.
2. How to Use Mental Maps to organize information about people, places and environments in a spatial context.
3. How to analyze the spatial organization of people, places and environment on Earth's surface.

II. Places and Regions

4. The physical and human characteristics of places.
5. People's creation of regions to interpret Earth's complexity.
6. How culture and experience influence people's perceptions of places and regions.

III. Physical Systems

7. The physical processes that shape the patterns of Earth's surface.
8. The characteristics and spatial distribution of ecosystems on Earth's surface.

IV. Human Systems

9. The characteristics, distribution and migration of human populations of Earth's surface.
10. The characteristics, distribution and complexity of Earth's cultural mosaics.
11. The patterns and networks of economic interdependence on Earth's surface.
12. The processes, patterns and functions of human settlement.
13. How the forces of cooperation and conflict among people influence the division and control of Earth's surface.

V. Environment and Society

14. How human actions modify the physical environment.
15. How physical systems affect human systems.
16. The changes that occur in the meaning, use, distribution and importance of resources.

VI. The Uses of Geography

17. How to apply geography to interpret the past.
18. How to apply geography to interpret the present and plan for the future.

Source: Geography Education Standards Project, 1994

The adoption of the national geography standards as the standards for the states and for school districts within states has been highly variable. Twenty-one of 38 states surveyed by one study (Munroe and Smith, 1998) had evidence that national geography standards were being used by states, although with huge variations in both quantity and quality of the national standards selected. Another study (Stoltman and Wardley, 1997) used a different data base and survey, but reported similar observations. The central idea behind the development of national standards was that each state would adopt the national standards as a model for state standards. National in scope, the content standards were voluntary and depended upon filtering down with wide acceptance at state and local levels for implementation. While the filtering down process has met with very mixed results, the national content standards have been beneficial to those states that have elected to use them.

GEOGRAPHY CONTENT STANDARDS AT THE STATE LEVEL

By mid 1995, many states were participating in the standards-setting process. This was prompted by The National Education Goals Report, *America 2000* (National Education Goals Panel, 1992), which declared that all students in the United States should achieve at a national standard in their school subjects by the beginning of the 21st century. Several states have adopted or slightly modified the national standards. Others adapted the national standards to meet their particular curriculum and mission statement. It is unlikely that a curriculum based on national content standards will be developed at the federal level since the individual states and local school districts have control over educational matters, including curriculum. The distinct separation of authority over education is clearly reflected at the curricular level where the impact of national standards was directed. While the national content standards served as the model for content in geography education, at the state level they were being pruned, reshaped, and selectively incorporated into state guidelines for education. They were being differentially applied at the local school district level where the grassroots decisions regarding curriculum and instruction are made.

The national content standards need wide recognition and acceptance at the local levels if they are to survive within the political traditions of American education. A 1995 survey by the Council of Chief State School Officers indicated that 35 states had either initiated or completed state content standards in academic subjects including geography (Council of Chief State School Officers, 1995). A survey by the American Federation of Teachers that same year reported that 27 states currently had standards and 23 were in the process of developing standards. In 46 of those states the focus of the standards was on the core academic subjects, such as geography, history, government, social studies, math, science, and language arts (Gandall, 1995).

A survey of the coordinators of the state Geographic Alliances was conducted in 1996 by the authors to determine if content standards were being implemented. Alliance coordinators often participate in the plans for implementing standards at the state level, and are an excellent source of inside information. Forty-seven of fifty-two coordinators responded. Of the respondents, thirty-six indicated that the

standards-setting processes in geography were underway in their states. The respondents indicated that 23 % of the states had a mandated state curriculum that included geography, and more than half (54 %) had a recommended state curriculum that included geography. Nearly all of the Alliance Coordinators who responded (94 %) believed that the national content standards in geography required modification before they would be used in their state.

These data do not necessarily reflect on the content of the national standards, but do reflect the autonomy with which states determine their curricula. The task for Alliances is to work with curriculum decision makers so that the modification and subsequent implementation of geography standards continue to reflect the original intent of the content standards developers and the community of professional geographers. The national content standards provide a powerful model that serves as a goal. A standards based geography or social studies curriculum can be attained in several different ways and complement the national standards.

During the period since 1994 there has been considerable interest in progress towards implementation. The data are scant in most cases and reflect anecdotal information rather than the review of actual curriculum documents (Bednarz, 1998). An early survey of Geography Alliances by the National Geographic Society in 1996 (Geography Education Program, 1996) revealed that 29 states have geography content standards in place, either as stand-alone geography, as a distinct strand of social studies or within the social studies standards. A further eight states were in the process of instituting such standards. However, a short time later a national study of 38 states engaged in the process of writing standards based curriculum frameworks revealed that 21 states documented some use of the national geography standards while 17 had little or no evidence that the national content standards existed. Within the 21 states that were adapters of the national standards, there was a great range of both quality and quantity of implementation (Munroe and Smith, 1998).

While the criteria for collecting data about the dissemination and reception of the standards by the states and while the methods of reporting vary from report to report, they do suggest an overall trend. Progress is evident, but it is sporadic and highly variable among the states, as it probably is within individual schools. The analysis of change within geography teaching in the United States would, in the authors' opinions, be a bland topic with the impetus provided by the national content standards. Geography has had numerous successes as well as some not so successful in the dissemination of the national content standards.

The surveys suggest that 38 of the 50 states have or are in the process of considering the importance of geography. While there is much room for disagreement on the direct benefits relative to the national standards in geography, most would agree that geography has regained a place in the educational curriculum in many states. This does not ignore the fact that some states have done too little or are too loosely connected to the national geography content standards to present the unified effort necessary to restore geography to an equitable position in the curriculum at a national scale. This situation is probably similar to the connection between other subjects that have recently prepared national content

standards (history, civics, mathematics, science) and alignment with the curriculum frameworks within the states. Greater dissemination and use of the national content standards among the states are the challenges that face geography education in the United States over the next few years.

A further observation garnered in reviewing state content standards was the focus on responsible citizenship that is the contemporary, unique contribution of the social studies curriculum in many states. In some states, the content focus on disciplines is the way to access responsible citizenship. Students well grounded in academic disciplines apply disciplinary knowledge to addressing the issues that face citizens. Other state content standards are structured largely using responsible citizenship to access either the content of the disciplines, or a multi-disciplinary mix of content that does not necessarily align with disciplinary content, but with world issues or global studies. It will be interesting over the next two decades to observe the success in those two approaches towards standards-based, learning outcomes.

THREE EXAMPLES OF STATE CONTENT STANDARDS IN GEOGRAPHY

In order to look at state-level geography more thoroughly, we will discuss the geography content standards for three states, Colorado, Delaware and Michigan. The Colorado standards parallel the national standards quite closely (Table 2), and there has been direct implementation of the language of the six essential elements of the national standards and several of the content standards. Colorado's content standards are the more closely aligned with national content standards than any other state . The content standards from Delaware (Table 3) and Michigan (Table 4) are not as reflective of the national standards. These latter states have "mined" the national standards for ideas and terminology. However, each has devised a set of standards that reflect the context of geography in the state educational system as determined by the state's geographic educators.

The uniqueness of local context is reflected in the specific decisions made in the three states. For example, the topic of physical systems is a prominent part of the geography content standards in Colorado, but it is largely missing from the content standards in Delaware and Michigan. This is mainly because in both Delaware and Michigan geography is subsumed within the social studies, whereas it is a separate subject within the Colorado academic curriculum. The practice of adapting the national standards within the state curriculum context is often viewed as the only option within the curriculum structure of social studies. Comparison of the standards in Colorado, Delaware and Michigan demonstrates that linkage to the national content standards in geography is feasible and desirable. However, the strengths of the linkage may vary greatly, yet still be validated as being national standards based. When complementary, the national and state content standards represent rigorous and creative thinking about the geographic knowledge and skills best suited for students in grades K-12. Content standards based geography can be accomplished within the social studies or, as is the case with Colorado, a separate discipline within the curriculum.

Table 3 Geography Strand of the Delaware Social Studies Content Standards

Geography Standard One: Students will develop a personal geographic framework, or "mental map", and understand the uses of maps and other geo-graphics (MAPS).

A mental map is a person's internalized picture of a part of the Earth's surface. It helps make sense of the world by storing and recalling information about the patterns of the Earth's human and natural features. A well-developed mental map is a great asset in understanding local, natural and world events. Students need to develop mental maps which reflect the relative locations and knowledge of major land forms and climatic activities at local, state, national, and world scales. Students also need to develop the ability to create, use and interpret maps and other geo-graphics crucial to analyzing and solving geographic problems.

Geography Standard Two: Students will develop a knowledge of the ways humans modify and respond to the natural environment (ENVIRONMENT).

The relationship between human needs and the natural environment is fundamental to life. Humans modify the environment in culturally distinctive ways as they respond to the resource opportunities and risks present in the physical world. To understand this relationship, students must know of the major processes which shape the world into distinctive physical environments, and gain awareness of the opportunities and limitations to human action presented by those environments.

Geography Standard Three: Students will develop an understanding of the diversity of human culture and the unique nature of places (PLACES).

Cultural differences produce patterns of diversity in language, religion, economic activity, social custom, and political organization across the Earth's surface. Places reflect the culture of the inhabitants as well as the ways that culture has changed over time. Places also reflect the connections and flow of information, goods and ideas with other places. Students who will live in an increasingly interconnected world need an understanding of the processes which produce distinctive places and how those places change over time.

Geography Standard Four: Students will develop an understanding of the character and use of regions and the connections between and among them (REGIONS).

Regions are areas containing places with common characteristics. They are a major way we simplify a geographically-complex world. Regions can be used for analysis and synthesis. They have practical applications as in political administration or organizing economic behavior. Understanding regions and their use will allow students to better analyze and predict patterns and connections between and among people, places and environments.

Source: Delaware Department of Public Instruction, 1995

Table 4 Geography Strand of the Michigan Social Studies Content Standards

Standard 2.1: Diversity of People, Places and Cultures

The mosaic of people, places and cultures expresses the rich variety of earth. Natural and human characteristics meld to form expressions of cultural uniqueness, as well as similarities among peoples. Culture is the way of life of a group of people including language, religion, traditions, family structure, institutions and economic activities.

Standard 2.2: Human/Environment Interaction

Understanding human/environment interaction enables one to consider how people rely on the environment, how they alter it, how it may limit what they are able to do and the consequences of actions for both people and the natural environment.

Standard 2.3: Location, Movement and Connections

Locations are connected by different transportation and communication networks that channel the movement of people, goods and information. Location of places along the networks is important in analyzing why some places are different in size and complexity from other places, what connections have developed, why movement occurs, and the consequences of different types of movement.

Standard 2.4: Regions, Patterns and Processes

The world can be viewed systemically or regionally. Climatic, economic, political and cultural patterns are created by processes such as climatic systems, communication networks, international trade, political systems and populations changes. A region is an area with unifying characteristics. By defining regions we are able to divide the world into parts in order to study their uniqueness and relationships.

Standard 2.5: Global Issues and Events

Places are interconnected by global processes. Throughout the world, people are increasingly linked by physical and human systems. Interdependence can be understood through the study of events that have significance beyond regional or national boundaries.

Source: Michigan Department of Education, 1996

GEOGRAPHY TEACHING WITHIN THE STATES: A CASE STUDY OF MICHIGAN

The lack of good data about the status of geography within the states makes it difficult to document either the need for or the effects of content standards. The authors believed that status of geography would be reflected by the percentage of instructional time devoted to geography within the curriculum. Parity of instructional time between geography, history, economics and civics could enhance the alignment of curriculum with state content standards since there would be

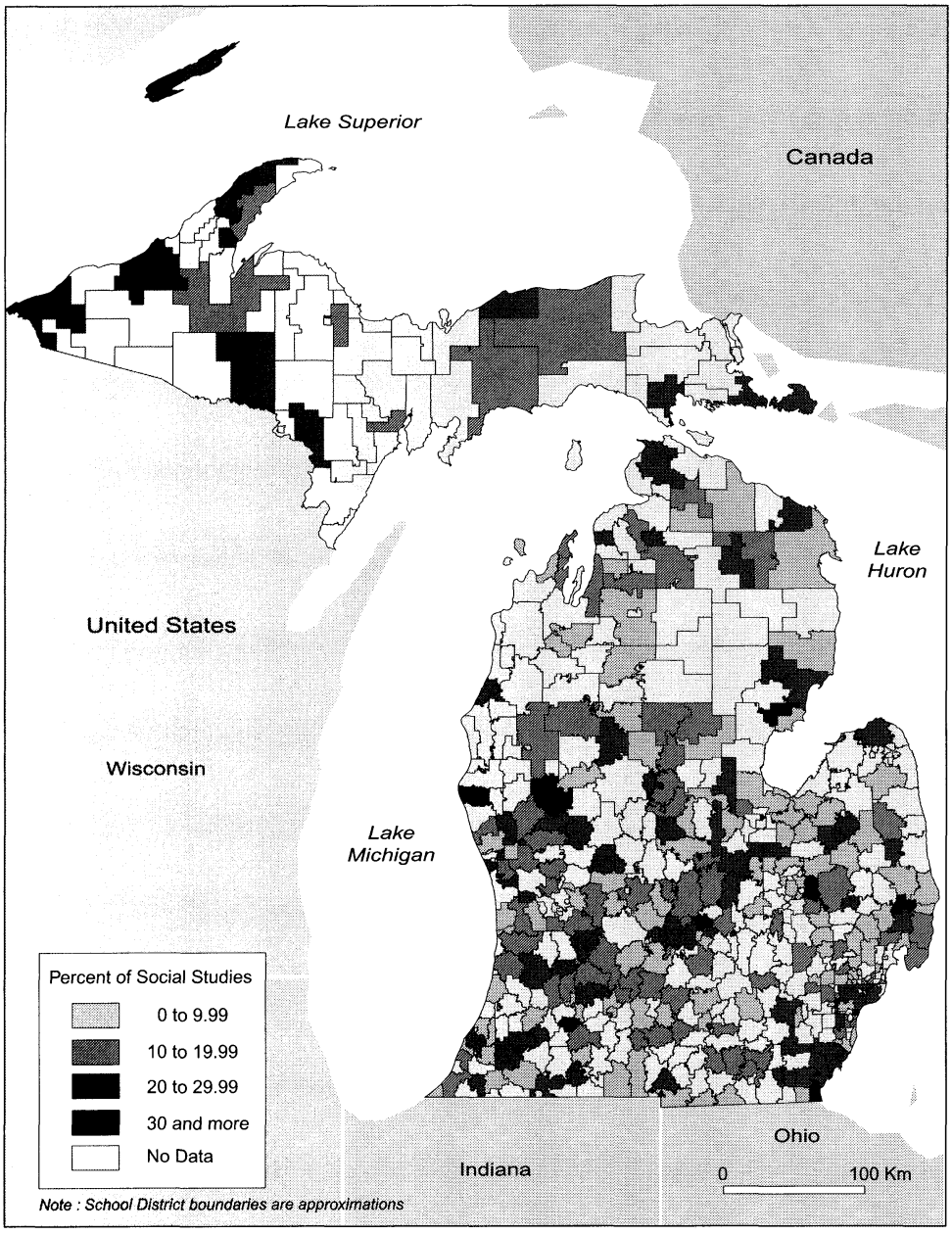
equal status assigned to each. On the other hand, a lack of parity in terms of instructional time among the four core content disciplines that make up the social studies might accord less status to those with less time, and delay the alignment of curriculum with content standards. In addition, the introduction of statewide testing for all students at the eleventh grade in history, geography, civics and economics on a equal basis (25 percent of the assessment devoted to each discipline) was also driving curriculum change (Michigan Department of Education, 1995).

In order to learn the status of geography in the high schools prior to the testing which began in May 1999, the 556 local education authorities (school districts) were surveyed to determine the percentage of instructional time within the social studies curriculum that was devoted to geography. Within Michigan, geography is time tabled as part of the social studies curriculum. Therefore, the survey requested that it be reported as a percentage of total available social studies instructional time (Figure 1). The assumption underlying the State of Michigan Content Standards and the Michigan Educational Assessment Program in social studies is that geography, history, economics and government (core content subjects) will be treated with parity in the curriculum. The State of Michigan does mandate this parity directly through public policy in education, but indirectly by virtue of the design of the social studies assessment which is administered to all students at 5^{th}, 8^{th}, and 11^{th} grades. Each of the four core content subjects is treated equally on the assessment. The implication for schools within the assessment policy is that the four content subjects receive equity within the school curriculum. If percentage of time spent on the core subjects in social studies is equal, then the assumption is made that the intended effect of the public policy on assessment, equal attention to the core social studies curriculum subjects, is occurring.

The data presented in Figure 1 suggest quite the contrary. The pattern on the map clearly demonstrates that the overall percentage of instructional time devoted to geography among the school districts in Michigan is less than the 25 % reflected by the public policy on what subjects are assessed. The pattern overall suggests a high school curriculum that does not include geography. In fact, the social studies curriculum has been dominated by history, government, and a wide range of elective courses (sociology, psychology, current events, ethnic studies, etc.). The data shown in Figure 1 represent the 1998 status of geography in the high schools of Michigan. This was one year prior to the initiation of statewide assessment in geography for all students. While curriculum change does take time to formalize, the inertia relative to reinstating geography to its equal status as reflected by instructional time withing the curriculum does need to be addressed. A follow up survey to compare with the baseline data (Figure 1) is planned for 2001.

It is expected that the assessment of the geographic knowledge of high school students at the end of their eleventh grade studies will promote a more equitable time allocation to geography. If one considers the school districts not reporting (Figure 1) as being in the lowest category for the percentage of time devoted to geography, then the map pattern provides compelling evidence for school policy makers of the need to enhance geography's status within Michigan high schools.

Figure 1 Geography: High School Percent of Social Studies Instruction Time



Source : Classroom Teachers

The data from the study of high school geography in Michigan are being used in the following two ways. First, they will be used to identify core geographical regions within the state where there is receptivity to geography by virtue of its inclusion. These school districts will be surveyed to determine why geography has greater curricular commitment. These school districts may provide curriculum models for geography in the high school that may be useful to other school districts. Second, the data will be used to identify regions of the State and groupings of school districts that need assistance to develop and offer geography in their curricula. If the diffusion process is applied to curriculum decisions within Michigan, then the implementation of content standards based geography in the social studies curriculum should begin to disseminate or spread from strong core areas to other school districts. Published scores in eleventh grade tests may enhance this process. This can be accomplished other ways as well, through teacher institutes, short courses and special activities related to the annual assessment in social studies.

PHASE III: NATIONAL ASSESSMENT IN GEOGRAPHY

National assessment is an emotionally charged, controversial issue within American culture. It is viewed as both a political and economic issue even before its educational costs and benefits are considered. The fact is that content standards necessitate large-scale testing. There is no other way to determine if the content established by the standards is indeed being learned by students. Without either statewide or national testing there is no check on the choice of content or the rigor of student expectations established by the many hundreds of local educational authorities and thousands of teachers in classrooms. The opponents of a national testing system claim that it will lead to a national curriculum, in which the federal government will replace local and state governments in controlling the educational process, and that it will not accommodate the wide range of academic interests exemplified by the diverse population of the United States. Proponents claim that national testing will assure some degree of uniform quality of education across the country, will result in the attainment of a standard of performance, and will identify the basic expectations and outcomes of schooling for parents and teachers. The development of a national assessment is viewed by proponents as an important step in establishing a criterion level against which to measure student achievement.

Since the 1960s there have been national tests in mathematics, science and language within the National Assessment of Educational Progress (NAEP), but geography was not included in the NAEP until 1988 (Allen, Bettis *et al.*, 1990). In as much, national and state assessments have overlapped each of the three phases cited earlier (table 1), but has been most influential during the last phase.

In 1989 the national educational reform, *America 2000*, was proposed by the Association of State Governors and geography was included as a core subject (National Education Goals Panel, 1992). *America 2000* raised the status of geography and it was again included as part of the 1994 NAEP assessment. In preparation for the assessment, the National Assessment Governing Board and the U.S. Department of Education sponsored a consensus building Assessment Framework Project in Geography. The Project involved teachers, parents, general citizens, educators and geographers in achieving consensus, or general agreement, about those elements of geography that should be learned by the time students reach grades 4, 8, and 12

in American schools. The geography component of the 1994 NAEP was designed to provide a broad, national look at what students were learning about geography. The resulting Framework was used to develop a blueprint and later specifications for the geography test within the 1994 NAEP (Table 5).

Table 5 Geography Assessment Framework Elements

Cognitive Dimension	Content Dimension		
	Space and Place	*Environment and Society*	*Spatial Dynamics and Connection*
Knowing	Where is the world's largest tropical rain forest?	What mineral resources are often extracted by strip mining?	What factors stimulate human migrations?
Understanding	Why are tropical rain forests located near the Equator?	Explain the effects of strip mining and shaft mining on the landscape.	Explain the motivations of modern day Cubans and Mexicans for immigrating to the U.S.
Applying	Support the conclusion that tropical rain forests promote wide species variation.	How can both economic and environmental interests be rereconciled in an area of strip mining?	Compare current sion settlement and employment patterns of Cuban and Mexican immigrants in the U.S.

Source: National Assessment Governing Board, 1994

The elements in the national assessment framework for geography were designed to link the cognitive dimensions of learning with the content dimensions of the discipline. The cognitive and content dimensions framed the main ideas from geography and specified the mental operations that students were expected to use in studying them. For example, knowledge of the location of the world's largest tropical rainforest was deemed important, but relatively low-level information. Knowledge that coal is often extracted by strip mining demonstrated awareness of a way that society uses the environment. A still higher level of cognition was sought in explaining the motivations of modern day migrants and their preference to migrate to specific places or regions. The synthesis of knowledge and understanding was revealed at the applying level, where students were asked to reconcile the economic and environmental interests in an area where strip mining of a valuable resource is feasible (Stoltman, 1997). The specifications for the items on the assessment included meeting both the cognitive and content dimensions of the geography education.

It is important to note that the 1994 NAEP in geography was designed and developed prior to the development of the national content standards. Thus, the alignment between national content standards and national assessment has yet to be demonstrated. This is not a serious problem for geographical educators since the disciplinary framework at the conceptual level is similar. It does present a

problem for non-geography trained people who use both the NAEP and National Geography Standards in their work since they do not see with the untrained eye the overall disciplinary context for geography. Future NAEPs in geography will have to be based upon the national content standards, since they represent the consensus statement about the kind of geography that students in the United States should know and be able to do. The educational community and geographers in particular will be closely monitoring the development of and the results from the NAEP geography administration scheduled for 2001.

STANDARDS BASED MATERIALS AND TEACHING

The implementation of content standards in geography education is perhaps most difficult and most expensive in terms of the allocation of material resources. There are two parts to the implementation that are of particular importance. The first is the development of educational materials that enable teachers and students to address the rigorous, challenging geography content in the standards. Meeting standards in geography will require more than simply writing new books or developing more electronic media. It will require a careful rethinking of how materials are organized, designed and presented. The best research available on enhancing opportunities for students to learn must be applied. The second component of implementation is teacher preparation. Teachers must be prepared to teach geography to a new standard. The past practices of minimal study in the discipline to gain certification as a teacher must be changed. Educational materials that are enhanced and made more robust will require teachers that are equally adept at dealing with the content of geography education. This observation is not unique to geography, since other content fields that have newly designed national standards face many similar issues. It may be more acute in geography due to the erosion of the subject within the social studies curriculum in the United States, especially at the high school level. The rediscovery of geography and its importance to the lives of students both in and out of school may give the discipline a higher visibility within the educational reform underway. Sustaining that visibility and importance are part of the work of the geographic alliances within the states. However, standards-based teaching materials and teacher preparation are at the heart of successful reform.

DEVELOPING STANDARDS-BASED TEACHING MATERIALS

In the United States the educational system is reliant for the most part upon commercially published textbooks. One effect of the renaissance in the discipline was an increase in the number of geography textbooks printed. Beginning in 1983 the publishers of social studies materials began to emphasize geography textbooks mainly for the first years of secondary school (junior high school or middle school) with students in those schools ranging from 12 to 14 years of age. By 1986, there were at least 11 geography textbooks designed specifically for that market. The upward trend continued until 1988 when there were 16 secondary textbooks on the market. The increased numbers of textbooks were partly in response to the information and media coverage regarding geographic illiteracy in the United States, and the anticipation by publishers for an increased demand for geography materials developing by the mid-to-late 1980s.

The National Science Foundation had also taken a renewed interest in geography education. The Foundation had been the principal underwriter of the High School Geography Project in the 1960s (Pratt, 1970). Four major geography curriculum development projects were funded in the 1990s by the Foundation to meet the new interests in the discipline.

The first, Geographic Inquiry into Global Issues (GIGI),was intended for secondary school students and included modules of instruction that focused upon major issues in different regions of the world. The instructional strategy moved the students in a progression from direct questions to generalizations based upon geographic information and data manipulation (Hill, Dunn *et al.*, 1994). Unfortunately, this project was disbanded by the publisher in 1998 after it had been marketed for approximately three years. While there were probably several reasons for its demise, one of the main reasons was the lack of confidence teachers had in teaching its demanding, yet student friendly content. Another may have been its appearance as modules rather than as a 700 pages textbook. The failure of GIGI reminds us that research is needed to determine why curriculum materials that go through extensive testing with students and teachers in their development stage meet with dismal acceptance in the educational materials market. Within the larger context of education, it was not surprising that GIGI materials suffered from looking "non-traditional". The materials were non-typical in their appearance. They probably made teachers (especially weak teachers) uncomfortable. However, the National Science Foundation sponsored GIGI because of its potential to change the way that geography was taught and learned, not just to promote current practices at the time.

The second materials development project is called Activities and Readings in the Geography of the United States (ARGUS), and was also designed for secondary students. ARGUS includes studies of population geography, economic geography, political geography and environmental issues, and each is presented within the context of the United States. ARGUS consists of relatively short activities that may last from one to several days, or longer with the suggested enrichment materials. Each activity has a single content focus and presents a specific analytic tool essential to geographic study. The emphasis on visual interpretation of geographic information is emphasized by the numerous maps, graphs and tables provided. ARGUS is not a hard bound text, but rather a loose-leaf, indexed document that carries with it unlimited reproduction rights for classroom use in the school that purchased the package. The materials are accompanied by a teacher's manual that includes an excellent set of overhead transparency masters to enhance instruction (Gersmehl, 1995; Association of American Geographers, 1997). ARGUS print is national content standards-based.

The third project was funded to produce an interactive compact disk (CD) to complement ARGUS print materials. The CD may also be used as a stand alone material. It is dual platform for both MacIntosh and Personal Computer (PC) operating systems and underwent both technical and educational field testing during its development (Association of American Geographers, 1999). The student activities on the CD are national content standards based.

The fourth project is entitled ARGWORLD, and stands for Activities and Readings in the Geography of the World. It was initiated in 1998 and will produce a compact disk with supporting print materials. Modeled after the prior project, ARGUS, the geography presented will be similarly content standards aligned. The content focus will be on geographic topics and case studies reflective of global systems and processes (Gersmehl, 1998).

The combined activity among textbook publishers, special development projects, electronic media developers and professional organizations such as the National Council for Geographic Education (NCGE) in preparing geographic education materials shows no indication of slowing by 1999. This is positive for the national content standards as long as the newly developed educational products for teaching geography pursue the national standards and clearly assist teachers and students in the attainment of those standards.

TEACHER PREPARATION

The in-service and pre-service training of geography and social studies teachers is a major component in the implementation of national geography standards. Teacher in-service training in geography is largely done by the state geographic alliances. Much of the work they perform is teaching classroom teachers basic knowledge of geography and how best to teach it. On the other hand, pre-service teacher training in the United States occurs in the colleges and universities where the content and methodologies of the discipline are presented. Many of those institutions do not have a geography faculty. The frequent lack of adequate preparation in geography for newly graduating teacher-education students has been documented in numerous publications (Winston, 1984; Rutter, 1986) and appears to not have changed substantially in the past decade. Research has shown that teacher knowledge and beliefs about geography, or whatever their subject of instruction, play an important role in classroom practice. The construction of geographic understanding by the teacher in turn affects the teacher expectations for students. Teachers with little knowledge of a discipline such as geography have been shown to have little awareness for its importance to either learning or life (Stodolsky and Grossman, 1995).

Influencing teacher-certification standards is a major task. Individual states and organizations representing associations of states set the standards for awarding teachers with certificates to teach. Recommendations to improve pre-service teacher preparation in geography have been proposed by the professional societies of geographers and educators. The National Council for Geographic Education (NCGE) has developed the Advanced Professional Certification in Geography. It provides an opportunity for teachers to provide evidence to peers, administrators, school boards, students, and the public that they exceed the norms and are well prepared academically in geography. Teachers meeting advanced certification must demonstrate competencies in professional growth and development, curriculum development, purposeful travel, innovative instructional strategies, professional staff development and enhancement of geographical awareness in the school and the community (National Council for Geographic Education, 1995).

The Geographic Education National Implementation Project (GENIP) has recommended course preparation in geography for future teachers of the discipline within the social studies and earth sciences curricula (Spetz, 1988). It is recommended that teachers of geography in the secondary school should have course work in world geography, the study of special regions such as Latin American, Europe, etc., physical geography, human geography and systematic topics in urban, economic, political, social and contemporary issues in geography. Courses in cartography, aerial photography and map interpretation, and computer applications in geography, such as geographic information systems, are also recommended. However, the university training programs for teachers and agencies such as state departments of education that serve as gatekeepers for certification standards are ultimately responsible for improvements in teacher training.

GEOGRAPHY AND CITIZENSHIP EDUCATION: REFLECTIONS BY THE AUTHOR

The relationship between geography education and citizenship education has not clearly been defined by the national content standards. It is more clearly defined in state content standards where the curriculum mission statements clearly state the relationship, such as "Social Studies is the integrated study of the social sciences to prepare young people to become responsible citizens" (Michigan Department of Education, 1996). On the other hand, the standards are rich with examples for using geographic content in ways that are significant to civic decision making, which is the basis for responsible citizenship in a democracy. Two powerful forces within geographic education were operating during the standards setting process. On one hand, the standards-setting process was viewed a distinct opportunity to present and promote geography as a self-standing discipline without the excess baggage that accompanied the social studies. On the other hand, the reality of school curriculum in the mid 1990s made it imperative that the geography content standards be readily accessible and implemented by teachers who viewed geography imbedded within an integrated, multi-disciplinary social study.

Geography does have a considerable contribution to make towards young people becoming responsible, fully functioning citizens in a democracy (Stoltman, 1990). That contribution is imbedded within the following four propositions that are widely accepted and intuitively appealing to a large number of teachers, parents and students. First, the purpose of the social studies curriculum is citizenship education. If there is any foremost reason why we have a social studies curriculum, it is to develop and promote responsible citizen behavior, and the curriculum is the formal approach to teaching those behaviors. While there are numerous other influences both within and away from school, it is the school's responsibility to sustain democracy with responsible future citizens. Second, responsible citizenship is largely a matter of making civic choices. Those choices range from what choices the individual makes to how the individual relates to and abides by group and societal choices, such as laws and regulations. Third, the disciplines of history, geography, political science and economics are the core content subjects with specific curricular responsibility for extending civic decision making beyond the school to life outside the school. For example, history provides evidence leading to decision

based on precedent. Geography informs decision about environmental ethics and a host of social and economic issues dealing, for example, with land use, election districts, bus stops, etc. Political science is the basis for the form and function of government and its responsibilities as a representative body of the people. Economics is the foundation for making sound personal financial and business choices. This is what makes the curricular role of these four core content areas different from other areas of the curriculum. And fourth, in order to make reasoned decisions throughout life, one must call upon both prior and newly learned information. That information must be processed in the context of the decision-making using skills related to inquiry (problem solving), and apply the values that reflect both personal and socially acceptable standards (Libbee and Stoltman, 1988).

The national geography content standards in a philosophical discussion represent each of the four propositions regarding citizenship. Perhaps their strongest contributions are with propositions two and three. They have presented exceptionally well reasoned geography content, and both directly and intuitively suggested means to incorporate reasoned decision making and applications of the national geography content standards to the civic lives of students. This latter point may be verified by the careful attention the standards give to the environment as a civic arena for public action. The geography content standards fall short, however, in convincing the readers and users of Geography for Life (Geography Education Standards Project, 1994) that the discipline and its perspective are important by providing either the framework or guidance to function holistically within the context of education for responsible citizenship. Similarly, the attention to civic problem solving using geography is not developed as well as the overarching citizenship focus of the social studies curriculum requires.

CONCLUSION

Progress in geographical education in the United States since 1984 has been dependent upon awareness building; the development of content standards, standards-based assessment; and implementation of a more rigorous, clearly defined geography for teachers, trainers of teachers, students and parents. It has been a major undertaking with some measures of success, but considerable work remains. On the positive side, geography has been recognized once again as a subject of considerable importance in the school curriculum from the early grades through high school. It is identified as one of a small number of disciplines deserving a national focus with a regular assessment of what students in the United States know about geography, as evidenced by the NAEP. On the other side, there is considerable evidence that geography is an important element in the preparation of students as responsible citizens, but there is little discussion in the national standards or in the assessment debate as to why this is important to American society (Stoltman, 1990). This is an essential component of education in the United States, and geographers will have to reckon with and resolve that issue.

The introduction of national content standards presents geography educators in the United States with an opportunity never before realized, but one that is fraught with problems. Because the teacher corps is not well versed in academic geography as articulated by the content standards, there is a major discrepancy

between the standards geography that is expected and the geography that is taught in the classroom. A major effort must be initiated to make the national content standards accessible to teachers and provide a curriculum structure that will accommodate the rigorous content presented in the standards. Currently there is no widely agreed upon geography curriculum for K-12 students. Part of the issue is that geography is a component of the social studies, and the social studies have been dominated by history education. History's clearly defined curriculum sequence based upon chronology may not result in good history being taught, but the sequence is understood by even those teachers with the least academic preparation in the discipline. This is not the case with geography, since the spatial attributes of geography require more complex and powerful analytical skills. If the spatial perspective is to be developed equally as well as the chronological perspective, then geography will need a clearly defined, well justified curriculum sequence that enables students to study the relationship of spatial dynamics to regional structures just as the chronological approach enables them to study from 1492 to 1992. Such a curriculum structure could and should evolve from the national geography content standards as well as complement the important linkage between curriculum, instruction and assessment within geography education.

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